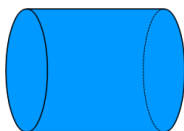


Volume of Prisms and Cylinders p410

Prism- 3D Solid with an identical base and top connected with rectangular sides



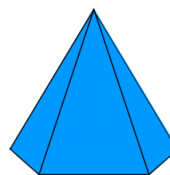
Cylinder 3D solid with circular base and top connected with one large rectangle



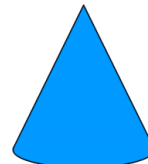
May 13-1:30 PM

Pyramid -3D solid with a Polygonal Base and triangular sides

Pentagonal Pyramid



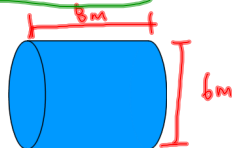
Cone - Circular Base reaching a point above the center



May 13-1:38 PM

Formula for the Volume of any shape

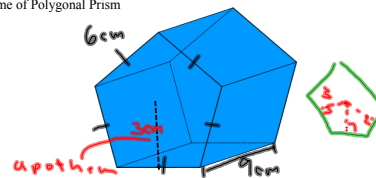
$$V = A_B \times H_T$$



$$\begin{aligned} V_{\text{cyl}} &= \pi r^2 \times H_T \\ V_{\text{cyl}} &= \pi (3)^2 \times 8 \\ V_{\text{cyl}} &= 3.14(9) \times 8 \\ V_{\text{cyl}} &= 226.08 \text{ m}^3 \end{aligned}$$

May 13-1:43 PM

Volume of Polygonal Prism



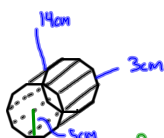
$$\begin{aligned} V &= A_B \times H_T \\ V &= \frac{P_a}{2} \times H_T \\ V &= \frac{30(3)}{2} \times 9 \text{ cm} \\ V &= \frac{90}{2} \times 9 \\ V &= 45 \times 9 \\ V &= 405 \text{ cm}^3 \end{aligned}$$

$P = 5 \times 6 = 30 \text{ cm}$
 $a = 3 \text{ cm}$
 apothem

$\frac{P_a}{2}$
 formula for area of any polygon = perimeter \times apothem

May 14-1:13 PM

Regular Decagonal Prism



$$\begin{aligned} V &= A_B \times H_T \\ &= \frac{P_a}{2} \times H_T \\ &= \frac{30(5)}{2} \times 14 \text{ cm} \\ &= \frac{150}{2} \times 14 \text{ cm} \\ &= 75 \times 14 \text{ cm} \\ &= 1050 \text{ cm}^3 \end{aligned}$$

$P = 3(10) = 30$
 $a = 5 \text{ cm}$

Hmk.
p 414 q. 6, 7 & 10

May 14-1:26 PM